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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,437	02/09/2001	Alfred A. Barney	01997-286001	6675

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FISH & RICHARDSON PC
225 FRANKLIN ST
BOSTON, MA 02110

EXAMINER
JAGAN, MIRELLYS

ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	09/779,437	BARNEY ET AL.	
	Examin r	Art Unit	
	Mirellys Jagan	2859	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 22 October 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☐ The a)☐ affidavit, b)☐ exhibit, or c)☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☒ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1-48 and 50*.

   Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☒ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). *11/24/2003*.

10. ☒ Other: *See Continuation Sheet*

Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800

Continuation of 10. Other: Applicant's arguments filed 11/24/03 have been fully considered but they are not persuasive.

Response to Arguments regarding claims 1 and 48:

Applicant's arguments that Ranson fails to describe or suggest determining the temperature of a surface of a substrate from the emission intensity of light from the sensor are not persuasive since Ranson discloses that the intensity of the luminescence from the sensor is detected, and a characteristic, e.g., decay rate, of the detected luminescence intensity is used to determine the temperature (see the Abstract, lines 1-8, and page 2, lines 1-12 of paragraph 30). The term 'luminescence' is defined as "the low-temperature emission of light (see Webster's Dictionary, 10th ed). Therefore, applicant's arguments are not persuasive since Ranson teaches that the temperature is determined from the detected emission intensity of light from the sensor.

Applicant's arguments that Bawendi and Britton fail to describe or suggest determining the temperature of a surface of a substrate from thee demission intensity of light from the sensor are not persuasive since the rejections are not based on Bawendi and Britton teaching that the temperature of a surface of a substrate is determined from the emission intensity of light from the sensor. The rejections are based on Ranson, which teaches that the temperature is determined from the emission intensity of light from the sensor, in view of Bawendi and Britton.

In response to applicant's argument that there is no suggestion or motivation to combine the Ranson, Bawendi, Britton references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is a teaching in the references to combine or modify the teachings of the prior art to produce the claimed invention since Ranson teaches that a thermographic phosphor is used as a luminescent element for determining the temperature of a surface, Bawendi teaches that a semiconductor nanocrystal in a binder is a fluorescent phosphor that is a luminescent element, and Britton teaches that fluorescent phosphors are known to be thermographic phosphors. Therefore, it would have been obvious to utilize a semiconductor nanocrystal in a binder as the luminescent element in Ranson for determining the temperature of a surface, since these luminescent elements are known alternate types of thermographic phosphors, which are known to be useful in obtaining temperature measurements.

Response to Arguments regarding claims 15 and 24:

Applicant's arguments that neither Ranson nor Britton teach or suggest a matrix containing a semiconductor nanocrystal where the matrix is formed from a semiconductor nanocrystal and a binder are not persuasive since the rejections are not based on either Ranson or Britton teaching a matrix containing a semiconductor nanocrystal where the matrix is formed from a semiconductor nanocrystal and a binder. The rejections are based on the temperature sensing coating of Ranson in view of Bawendi and Britton, where Bawendi teaches a matrix containing a semiconductor nanocrystal where the matrix is formed from a semiconductor nanocrystal and a binder. Furthermore, applicant's argument that Bawendi fails to describe or suggest a binder is not persuasive since the applicant has not provided support showing why or how Bawendi fails to disclose or suggest a binder.

In response to applicant's argument that there is no suggestion in Ranson or Britton to use semiconductor nanocrystals as a temperature sensor or in a temperature sensing coating including a binder are not persuasive since the rejections are not based on either Ranson or Britton teaching semiconductor nanocrystals or a coating having semiconductor nanocrystals in a binder. The rejections are based on the temperature sensing coating of Ranson in view of Bawendi and Britton, where Bawendi teaches a semiconductor nanocrystal and a binder. Furthermore, applicant's argument that Bawendi fails to suggest a binder is not persuasive since the applicant has not provided support showing why or how Bawendi fails to suggest a binder.

In response to applicant's argument that there is no suggestion or motivation to combine the Ranson, Bawendi, Britton references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is a teaching in the references to combine or modify the teachings of the prior art to produce the claimed invention since Ranson teaches that a thermographic phosphor is used as a luminescent element in a coating applied to a surface for determining the temperature of the surface, Bawendi teaches that a semiconductor nanocrystal in a binder is a fluorescent phosphor that is a luminescent element, and Britton teaches that fluorescent phosphors are known as thermographic phosphors. Therefore, it would have been obvious to utilize a semiconductor nanocrystal in a binder as the luminescent element in Ranson, since these luminescent elements are known alternate types of thermographic phosphors which are known to be useful in obtaining temperature measurements.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the examiner's conclusion of obviousness takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made since the conclusion of obviousness is based on the teachings in the Ranson, Bawendi, and Britton references that thermographic phosphors are used in obtaining temperature measurements, and that semiconductor nanocrystals in a binder are fluorescent thermographic phosphors, which are teachings that were available to one having ordinary skill in the art at the time the claimed invention was made.

In response to Applicant's arguments that none of Wickersheim, Bawendi, Britton, or Hase describe, suggest, or provide a motivation for a paint that includes a semiconductor nanocrystal in a binder and a deposition solvent, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F, 2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument that there is no motivation to combine the Wickersheim, Bawendi, Britton, and Hase references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is a teaching in the references to combine or modify the teachings of the prior art to produce the claimed invention since Wickersheim teaches that a thermographic phosphor is used as a luminescent element in a paint applied to a surface for determining the temperature of the surface, Bawendi teaches that a semiconductor nanocrystal in a binder is a fluorescent phosphor, which is a luminescent element, Britton teaches that fluorescent phosphors are known as thermographic phosphors, and Hase teaches that paint commonly has volatile solvents as an ingredient. Therefore, it would have been obvious to utilize a solvent, and semiconductor nanocrystals in a binder as the luminescent element in the paint of Wickersheim since paint commonly has volatile solvents as an ingredient, and since these luminescent elements are known alternate types of thermographic phosphors which are known to be useful in obtaining temperature measurements.

Furthermore, applicant's arguments that Wickersheim, Bawendi, Britton, and Hase do not disclose a method of manufacturing, i.e., making, a paint that includes a semiconductor nanocrystal in a binder and a deposition solvent are not persuasive since Wickersheim, Bawendi, Britton, and Hase teach such a paint as stated above in the previous paragraph.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the examiner's conclusion of obviousness takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made since the conclusion of obviousness is based on the teachings in the Wickersheim, Bawendi, Britton, and Hase references that thermographic phosphors are used in paint for obtaining temperature measurements of a surface and that semiconductor nanocrystals in a binder are fluorescent thermographic phosphors, which are teachings that were available to a person having ordinary skill in the art at the time the claimed invention was made.

Response to Arguments regarding claims 34-36:

Applicant's argument that the combination of Wickersheim, Bawendi, Britton, and Hase fails to disclose a temperature sensing paint having semiconductor nanocrystals in a binder and a solvent is not persuasive for the reasons stated above with respect to claims 32, 43, and 45.

Furthermore, Applicant's arguments that the Prior Art does not teach a temperature sensing paint having semiconductor nanocrystals in a binder and a solvent are not persuasive since the rejections are not based on the Prior Art's teaching of a temperature sensing paint having semiconductor nanocrystals in a binder and a solvent. The rejections are based on the teaching of the Prior Art that temperature-sensing compositions can be used in combination with pressure-sensitive compositions that include a platinum porphyrin..